

This Page Is Inserted by IFW Operations  
and is not a part of the Official Record

## **BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning documents *will not* correct images,  
please do not report the images to the  
Image Problem Mailbox.**



**UNITED STATES DEPARTMENT OF COMMERCE**  
**Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/295,607	04/22/99	YAMAZAKI	S 0756-1961

MM42/0804  
SIXBEY, FRIEDMAN, LEEDOM & FERGUSON, P.C.  
8180 GREENBORO DRIVE, SUITE 800  
MC LEAN VA 22102

EXAMINER	
LOKE, S	
ART UNIT	PAPER NUMBER

2811

DATE MAILED: 08/04/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

# Office Action Summary

Application No.  
09/295,607

Applicant(s)  
Yamazaki et al.

Examiner  
Loke

Group Art Unit  
2811



☒ Responsive to communication(s) filed on Apr 22, 1999

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 1-18 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 1-18 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been  
☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 2

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

Art Unit: 2811

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.
3. Claims 2, 4, 6, 8, 11, 13, 15 and 17 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The specification never discloses an insulating film comprising aluminum, nitrogen and oxygen provided on the rear surface of the substrate as claimed in claims 2 and 6.

The specification never discloses a multi-layer insulating film provided on the rear surface of the substrate and comprising an aluminum nitride layer and a silicon oxide layer as claimed in claims 4 and 8.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-4 and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Troxell et al. in view of Ikeda (Japanese patent 59-121876 in PTO-1449).

Art Unit: 2811

Troxell et al. discloses a semiconductor device in fig. 1. It comprises: a polycrystalline silicon thin film transistor formed on a glass substrate [10]; a silicon nitride layer [12] formed on the bottom surface of the glass substrate [10].

Troxell et al. differs from the claimed invention by not showing an AlN layer formed on the rear surface of the substrate.

Ikeda shows an AlN layer [12] formed on the rear surface of a glass substrate [11] in fig. 1(c).

Since both Troxell et al. and Ikeda teach an insulating layer formed on a glass substrate, it would have been obvious to have the AlN layer of Ikeda in Troxell et al. because it prevents a thin film device from deforming at the time of forming the device.

6. Claims 5-9 and 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mano et al. in view of Ikeda (Japanese patent 59-121876 in PTO-1449).

Mano et al. discloses an active matrix liquid crystal display device in fig. 7. It comprises a polycrystalline silicon thin film transistor formed on a quartz substrate [408].

Mano et al. differs from the claimed invention by not showing an AlN layer formed on the rear surface of the substrate.

Ikeda shows an AlN layer [12] formed on the rear surface of a glass substrate [11] in fig. 1(c).

Since both Mano et al. and Ikeda teach a thin film transistor formed on a glass substrate, it would have been obvious to have the AlN layer of Ikeda in Mano et al. because it prevents a thin film device from deforming at the time of forming the device.

Art Unit: 2811

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven Loke whose telephone number is (703) 308-4920.

sl

July 30, 1999

STEVEN H. LOKE  
PRIMARY EXAMINER  
GROUP 2500

*Steven Loke*